

# Comparisons of Job Characteristics

Focus Occupation: **Engineers, All Other (17-2199)**

Associated Occupation: **Chemical Engineers (17-2041)**

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

## Knowledge

Similarity of Focus Occupation to Associated Occupation: 87

Focus Occupation: Engineers, All Other (17-2199)  
Associated Occupation: Chemical Engineers (17-2041)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Engineering and Technology	5.7	24.1	20.1	<<	Extensive education and/or training may be required
Chemistry	4.8	20.5	8.8	<<	Extensive education and/or training may be required
Mathematics	9.2	19.4	17.1	<	Expanded education and/or training may be required
Physics	4.3	16.9	14.8	<	Expanded education and/or training may be required
Production and Processing	6.0	15.4	12.9	<	Expanded education and/or training may be required
Design	5.2	15.2	16.5	0	Current knowledge level may be sufficient
Administration and Management	8.4	12.7	10.6	<	Expanded education and/or training may be required
Biology	3.7	9.6	3.7	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Skills

Similarity of Focus Occupation to Associated Occupation: 84

Focus Occupation: Engineers, All Other (17-2199)  
Associated Occupation: Chemical Engineers (17-2041)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Science	4.5	18.0	11.4	<<	Extensive development of skills in this area may be required
Mathematics	6.2	14.7	12.8	<	A higher skill level may be required

Judgment and Decision Making	9.4	14.6	12.1	<	A higher skill level may be required
Complex Problem Solving	9.1	14.5	12.7	<	A higher skill level may be required
Systems Analysis	6.5	14.1	11.7	<	A higher skill level may be required
Operations Analysis	5.0	13.5	10.8	<	A higher skill level may be required
Systems Evaluation	6.4	13.4	11.1	<	A higher skill level may be required
Troubleshooting	4.5	10.4	7.8	<<	Extensive development of skills in this area may be required
Technology Design	2.6	8.5	7.9	0	Current skill level may be sufficient
Management of Financial Resources	3.3	7.4	5.8	<	A higher skill level may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 98			
Focus Occupation: Engineers, All Other (17-2199) Associated Occupation: Chemical Engineers (17-2041)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Oral Comprehension	12.5	15.8	14.8	0	Current ability level may be sufficient
Category Flexibility	9.0	15.2	12.3	<	Some improvement in abilities may be required
Deductive Reasoning	10.6	15.2	15.0	0	Current ability level may be sufficient
Information Ordering	9.9	15.1	13.2	<	Some improvement in abilities may be required
Problem Sensitivity	11.1	14.8	14.0	0	Current ability level may be sufficient
Inductive Reasoning	10.2	14.6	13.7	0	Current ability level may be sufficient
Mathematical Reasoning	6.3	14.2	13.4	0	Current ability level may be sufficient
Number Facility	6.3	13.4	11.6	<	Some improvement in abilities may be required
Originality	7.6	13.0	11.8	<	Some improvement in abilities may be required
Visualization	7.5	11.7	11.7	0	Current ability level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

There are no common work activities.

Tools and Technologies that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 76
Focus Occupation: Engineers, All Other (17-2199) Associated Occupation: Chemical Engineers (17-2041)		
Tools and Technologies	Exclusivity	
Business function specific software	1	

Chromatographic measuring instruments and accessories	16
Computers	1
Content authoring and editing software	1
Data management and query software	1
Development software	4
Finance accounting and enterprise resource planning ERP software	2
Gas analyzers and monitors	10
Industry specific software	1
Integrated circuits	18
Laboratory centrifuges and accessories	13
Laboratory decanting and distilling and evaporating and extracting equipment and supplies	19
Laboratory mixing and stirring and shaking equipment and supplies	19
Pharmaceutical industry machinery and equipment and supplies	31
Spectroscopic equipment	10
Viewing and observing instruments and accessories	4

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.